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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/298,751	04/23/1999	SENG-KHOON TNG	ICEN-P001	2402

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EXAMINER

ODLAND, DAVID E

ART UNIT PAPER NUMBER

2662

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Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No. 09/298,751	Applicant(s) TNG ET AL.	
	Examiner David Odland	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)              | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Objections*

1. Claim 8 is objected to because of the following informality: the claim recites the limitation "...received in paralle..." in lines 3 and 4. The word 'parallel' is misspelled. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "...wherein the multiplexers are *switchably connectable* to the barrel shift register..." in line 6. This limitation is confusing; it is unclear what is meant by 'switchably connectable'.

Claim 10 recites the limitation "...at least transmitted digital signal..." in line 2. This limitation is confusing; it is unclear what is meant by 'at least transmitted'.

Claims 8-10 are also rejected because they are dependent upon claim 7.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 1-5, 7,9, 3(as best understood) and 8(as best understood) are rejected under 35 U.S.C. 102(e) as being anticipated by Mackre (U.S. Patent number 6,128,317).

Referring to claim 1, Mackre discloses an apparatus for interconnecting a plurality of signal endpoints (an apparatus for transferring data from host processors to multiple CODECs [see figure 1 and abstract]), wherein the apparatus comprises a circuit for receiving at least one input signal from at least one input endpoint (a circuit for receiving an input from a codec [see figure 1 and 3]) and a circuit for sending at least one received signal to at least one output endpoint (a transmitter to send data to the host processor [see figure 1 and 4]).

Referring to claim 2, Mackre discloses at least one input signal comprises a data signal received in serial form and includes a plurality of data channels interleaved therein (a data signal which has undergone Time Division Multiplexing (TDM) is received in serial form [see figure 4 and column 1 lines 10-16]).

Referring to claim 3, Mackre discloses a first circuit, which comprises of at least one barrel shift register for receiving an least one received input signal which comprises

serial data (a receiving circuit comprising a shift register which receives serial data [see figure 4, column 5 lines 61-67 and column 6 lines 1-5]) and a second circuit comprises at least one multiplexer, at least one such barrel shift register being selectably coupled to at least one such multiplexer (a transmitting circuit which comprises a multiplexer which has a shift register coupled to it [see figure 3]).

Referring to claim 4, Mackre discloses at least one input signal, which comprises a data signal that is received in parallel form and converted to serial form (a received data signal which is converted from parallel to serial form [see figure 3]).

Referring to claim 5, Mackre discloses the first circuit comprises a barrel shifter for interconnecting a plurality of received input signals at different times (a circuit for interconnecting a plurality of received input signals comprising a shift register in which bits are serially shifted every time the clocking signal is asserted [see figure 3 and column 6 lines 1-4]).

Referring to claim 7, Mackre discloses a method of electronic signal coupling, wherein the steps include receiving a first set of digital signals (a set of received signals, namely, data sample codec signals and FSYNC signals [see figure 3]), the received first set of digital signals being provided to a plurality of barrel shift registers (the received signal being received by shift registers [see figure 3]), transmitting a second set of digital signals (transmitting a set of signals out of the multiplexers [see figure 3]), the transmitted second set of digital signals being provided from a plurality of multiplexers (the second set of transmitted signals being send from multiplexers [see figure 3]), wherein the multiplexers are connected to the barrel shift registers (the multiplexers are

connected to shift registers [see figure 3]) such that at least one signal selected in the first set of digital signals is selectably interconnected for transmission in the second set of digital signals (the FSYNC signal of the first set of signals can be selected for transmission out of the multiplexers that are in the second set of signals [see figure 3]).

Referring to claim 8, Mackre discloses a first set of digital signals comprises a data signal which is received in either serial or parallel form (a set of signals received in parallel form [see figure 3]), the data signal being converted to serial form when received in parallel form (the signals are converted from parallel to serial by a parallel to serial converter [see figure 3]).

Referring to claim 9, Mackre discloses a plurality of digital signals in the first set is transmitted in the second set separately at different times [the transmission of the FSYNC input signals are transmitted as output signals of the multiplexer at the different times when the signal is selected [see figure 3])

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 10 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Mackre.

Referring to claim 6, Mackre discloses that at least one of the input or output endpoints corresponds to at least one pin for a codec device (at least one input or

output endpoints is a codec [see figure 1 and figure 3]). Mackre does not disclose that the codec is compliant with AC97 or I2S. However, it is well known in the art that AC97 and I2S are established standards. Therefore it would have been obvious to one skilled in the art at the time of the invention to utilize a codec, which complies with the AC97 or I2S convention because such a convention is an established standard.

Referring to claim 10, Mackre discloses that the transmitted signal is coupled to at least one codec (the transmitted signals are connected to a codec [see figure 1 and figure 3]). Mackre does not disclose that the codec is compliant with AC97 or I2S. However, it is well known in the art that AC97 and I2S are established standards. Therefore it would have been obvious to one skilled in the art at the time of the invention to utilize a codec, which complies with the AC97 or I2S convention because such a convention is an established standard.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - a. U.S. Pat. No. 6347344 to Baker et al. discloses an integrated multimedia system with local processor, data transfer switch, processing modules, fixed functional unit, data streamer, interface unit and multiplexer, all integrated on multimedia processor.
  - b. U.S. Pat. No. 6269103 to Laturell discloses a high-speed data interface using TDM serial bus.

- c. U.S. Pat. No. 6215429 to Fischer et al. discloses a method for distributed gain for audio codec.
  - d. U.S. Pat. No. 6205522 to Hudson et al. discloses a method of DSP code swapping with continuous DSP execution.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Odland whose telephone number is (703) 305-3231. The examiner can normally be reached on Mon-Fri 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached at (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

deo

March 20, 2002

  
Ajit Patel  
Primary Examiner